

# nih record



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*'If You're Going Through Hell—Keep Going!'*

## Collins Hosts Town Hall on Effects of Shutdown on NIH

By Rich McManus

Addressing the NIH community that had gathered in Masur Auditorium or who had tuned into a live videocast of the event, NIH director Dr. Francis Collins held an hour-long town hall meeting Oct. 23 in which he condemned the effects of “an unnecessary and ultimately pointless shutdown” that closed the government Oct. 1-16 and idled 75 percent of the NIH workforce.



NIH director Dr. Francis Collins

For the first half of the session, Collins outlined a steadily deteriorating political landscape that has included first multiple threats of shutdown, then the reality of budget sequestration, culminating in a 16-day shutdown coinciding with the start of FY 2014. Federal regulations barred any but “excepted” employees—those with responsibility for the preservation of life (human and animal) and property—from coming to work. The second part of the meeting included Q&As from both the audience in Masur and via email.

SEE SHUTDOWN, PAGE 6

*'A Very Urgent Issue'*

## NICHD Seminar Reviews Maternal Mortality in Women of Color

By Belle Waring

When a woman dies in pregnancy or childbirth, the world cracks in two: the Time Before and the Time After, when nothing is the same. In the biblical account of Jacob's wife, “Rachel travailed, and she had hard labor...And Rachel died.” Stories and songs about motherless



Dr. Maria J. Small

kids persist in all cultures—from Snow White, Oliver Twist and Lord Voldemort to Blind Willie Johnson's, “Motherless children have a hard time when mother is dead.”

We might think that these primal tales of maternal loss are of another

## Federal 'Employee of the Year' Honorees Hail from NIH

By Raymond MacDougall

A team of scientists from the National Human Genome Research Institute and the Clinical Center have received a Service to America Medal for their efforts to protect patients from infections with drug-resistant bacteria. They demonstrated a new way to trace transmission routes using cutting-edge genomic techniques and infection control that will help hospitals facing similar crises in the future.

In 2011, the team investigated a cluster of infections so severe that it claimed the lives of several seriously ill patients enrolled in clinical trials at the Clinical Center. The Partnership for Public Service—which grants the Service to America or “Sammie” medals—awarded them the Federal Employee of the Year designation for their dedication and innovation in the face of daunting conditions. White House Chief of Staff Denis McDonough presented the award to the team at a ceremony on Oct. 3.

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The NIH Record is recyclable as office white paper.

SEE MATERNAL HEALTH, PAGE 8



The NIH Record is published biweekly at Bethesda, MD by the Editorial Operations Branch, Office of Communications and Public Liaison, for the information of employees of the National Institutes of Health, Department of Health and Human Services. The content is reprintable without permission. Pictures may be available upon request. Use of funds for printing this periodical has been approved by the director of the Office of Management and Budget through September 30, 2014.

To receive alerts to our latest issue, send an email to [listserv@list.nih.gov](mailto:listserv@list.nih.gov) with the words "Subscribe NIHRECORD" in the message body.

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NIH...Turning Discovery Into Health

nih record

## briefs

### NIH Senior Leadership Holds Diversity Workshop, Nov. 14

The NIH chief officer for scientific workforce diversity, in collaboration with the Office of Equal Opportunity and Diversity Management and the Office of Human Resources, will sponsor a workshop, "Diversity at the NIH: Diversity, Inclusion and Equity to Strengthen the NIH-Funded Research Enterprise," on Nov. 14.

IC and scientific directors have been invited to learn and discuss matters related to diversity, inclusion and equity. Speakers include Dr. David Williams, Florence and Laura Norman professor of public health, professor of African and African-American studies and sociology, Harvard; Dr. Brian Nosek, associate professor, department of psychology, University of Virginia; and Dr. Hannah Valentine, senior associate dean and professor of cardiovascular medicine, Stanford.

The workshop will feature a symposium open to NIH staff with lectures covering topics such as implicit bias, social inequality in the professional setting, diversity as a central tenet of innovation and the imposter phenomenon. An NIH-wide email will be sent in advance of the meeting, providing event and videocast details.

### Family Caregiver Day at the Clinical Center

In recognition of National Family Caregiver Month, the Clinical Center will host Family Caregiver Day on Thursday, Nov. 21. A Caregiver Information Fair & Expo will be held from 10 a.m. to 2 p.m. on the 7th floor of the Clinical Research Center. CC departments and outside exhibitors will offer resources for family caregivers.

No registration is required. For more information on the event, visit [www.cc.nih.gov/wecare/](http://www.cc.nih.gov/wecare/) or contact Dr. Margaret Bevans (301-402-9383) or Leslie Wehrle (301-451-4077).

### Annual Leave: Use It or Donate It

Annual leave in excess of the maximum carryover balance (240 hours, in most cases) is normally forfeited if not used or donated by the end of the current leave year. If you have not already planned to take excess hours of AL, you should discuss your leave with your supervisor now while there is still time to schedule it. Your bi-weekly Leave and Earnings Statement tells you how much leave you must use or donate so that you will not lose it when the leave year ends on Saturday, Jan. 11, 2014.

In spite of planning, circumstances sometimes

arise that prevent you from taking leave that has been scheduled and approved earlier during the leave year. In such cases, you and your supervisor are jointly responsible for ensuring that any "use or donate" (formerly "use or lose") leave is officially rescheduled in ITAS. This year, your "use or donate" leave must be scheduled in ITAS not later than Saturday, Nov. 30.

If you or your supervisor have questions about "use or donate" leave, contact your administrative officer.

### Institute of Medicine Elects 3 NIH'ers

Three NIH scientists are among the 70 new members and 10 foreign associates elected to the Institute of Medicine at its 43rd annual meeting on Oct. 21. Election to the IOM is considered one of the highest honors in the fields of health and medicine and recognizes individuals who have demonstrated outstanding professional achievement and commitment to service.

The intramural NIH scientists are Dr. Ronald Germain, chief, Laboratory of Systems Biology, NIAID; Dr. Warren Leonard, NIH distinguished investigator, chief of the Laboratory of Molecular Immunology and director, Immunology Center, NHLBI; and Dr. Daniel Pine, chief, section on development and affective neuroscience, NIMH.

"Election to the IOM is a marker of an outstanding professional and scientific career," said NIH director Dr. Francis Collins. "We are proud of our accomplished scientists and congratulate them on this honor."

New members are elected by current active members through a selective process that recognizes individuals who have made major contributions to the advancement of the medical sciences, health care and public health.

Established in 1970 by the National Academy of Sciences, IOM has become recognized as a national resource for independent, scientifically informed analysis and recommendations on health issues. With their election, members make a commitment to volunteer their service on IOM committees, boards and other activities.



Dr. Ronald Germain



Dr. Warren Leonard



Dr. Daniel Pine



## NIH Grantees Win 2013 Nobel Prizes in Medicine, Chemistry

Six NIH extramural grantees have been awarded the 2013 Nobel Prizes in physiology or medicine and chemistry. Two will give lectures at NIH later this month.

“For their discoveries of machinery regulating vesicle traffic, a major transport system in our cells,” said the Nobel Assembly at Karolinska Institute, the Nobel Prize in Medicine 2013 has been awarded jointly to James E. Rothman of Yale University; Randy W. Schekman of the University of California, Berkeley; and Thomas C. Südhof of Stanford University School of Medicine.

Their work revealed how cells use small sacs, called vesicles, to import and export materials to and from cells. This transport system is a fundamental process in how cells work.

“Without this wonderfully precise organization,” said the Nobel Assembly, “the cell would lapse into chaos.”

NIH has supported Rothman’s work from 1978 to 2013 with more than \$41.8 million in total funding from 7 ICs: NIGMS, NIAMS, NIDDK, NCI, NHGRI, NIMH and NINDS.

From 1979 to 2005, Schekman was awarded more than \$5.2 million in NIGMS funding support. He is also affiliated with the Howard Hughes Medical Institute.

Südhof’s work garnered NIH support from 1969 to 2013 with over \$15.6 million in grants from NIMH, NINDS and NHLBI. He too is affiliated with Howard Hughes Medical Institute.

The 2013 Nobel Prize in chemistry was awarded jointly to NIH grantees Martin Karplus of Harvard University, Michael Levitt of Stanford University School of Medicine; and Arieh Warshel of the University of Southern California for the development of powerful multiscale computer models used to understand and predict chemical processes.

“The work of Karplus, Levitt and Warshel is groundbreaking,” said the Royal Swedish Academy of Sciences, “in that they managed to make Newton’s classical physics work side-by-side with the fundamentally different quantum physics.”

NIH began supporting Karplus in 1970 and has provided more than \$6.6 million in support from NEI and NIGMS. Karplus, professor of chemistry emeritus at Harvard University, is also affiliated with the Université de Strasbourg in France.

Since 1969, Levitt has received more than \$25.8 million in support from NEI, NIGMS, NIAMS and NIDDK. He will lecture at NIH on Nov. 18 at 4 p.m. in Masur Auditorium, Bldg. 10, on the topic “The Birth and Future of Computational Structural Biology.”

Warshel received more than \$11.4 million in support from 1976 to 2013 from NEI, NIGMS and NCI. He will speak Nov. 20 at 1 p.m. in Masur on “Computer Simulations of Biological Functions.”

NIH has granted a total of more than \$108 million to the six scientists.



PHOTO: HAROLD SHAPIRO/YALE



PHOTO: L.A. CICERO

*Winning the 2013 Nobel Prize in physiology or medicine were NIH grantees (from l) Dr. James E. Rothman, Dr. Randy W. Schekman and Dr. Thomas C. Südhof.*



PHOTO: EMMANUEL NGUYEN NGOC



PHOTO: L.A. CICERO



PHOTO: GUS RUELAS/USC

*Winning the 2013 Nobel Prize in chemistry were NIH grantees (from l) Dr. Martin Karplus, Dr. Michael Levitt and Dr. Arieh Warshel.*

### Cardozo To Speak in NLM Series, Nov. 13

*Dr. Timothy Cardozo will give the next talk in the National Library of Medicine Informatics Lecture Series. He will discuss “Matching Complex Biomarkers to Drugs Using HistoReceptomic Signatures” on Wednesday, Nov. 13 from 2 to 3 p.m. in Bldg. 45, balcony A. Cardozo is associate professor of biochemistry and molecular pharmacology at NYU School of Medicine. An active clinician, educator and computational structural biologist specializing in drug/vaccine design and protein engineering, he has been funded both by the Bill and Melinda Gates Foundation and NIH. He has developed the first known inhibitors of several challenging drug targets. Cardozo was recognized with a 2008 NIH Director’s New Innovator Award and was recently presented with the NIDA Avant-Garde Award for HIV/AIDS Research.*







## SAMMIES

CONTINUED FROM PAGE 1

*White House Chief of Staff Denis McDonough (l) presented the Federal Employee of the Year Award to (from l) Dr. Julie Segre, Dr. Evan Snitkin, Dr. Tara Palmore and Dr. David Henderson.*

PHOTO: SAM KITTNER/KITTNER.COM

The NIH team includes Dr. Julie Segre, senior investigator in the Genetics and Molecular Biology Branch, NHGRI; Dr. Evan Snitkin, post-doctoral fellow in Segre's laboratory; Dr. Tara Palmore, deputy hospital epidemiologist at the Clinical Center; and Dr. David Henderson, deputy director for clinical care and associate director for quality assurance and hospital epidemiology at the CC.

"Drs. Segre, Snitkin, Palmore and Henderson each applied their respective expertise to work together as a team at a critical time, making an important contribution to establishing safer health care settings," said NHGRI director Dr. Eric Green. "Their work effectively demonstrates how genome sequencing technologies can play a central role in battles against antibiotic-resistant microbes."

Bacteria are ubiquitous and prolific, turning out a new generation every hour. Their genetic material, or DNA, can undergo alterations in that process, enabling a subset of the bacteria to survive even after being exposed to antibiotics designed to halt

infection. Some defiantly robust bacteria have become even more dangerous due to this resistance, especially for patients with compromised immune systems.

In the summer of 2011, Clinical Center staff first detected carbapenem-resistant *Klebsiella pneumoniae* (KPC) harbored by an intensive care unit patient. The bacteria gained the upper hand for a span of months, becoming resistant to almost every form of antibiotic. Tragically, seven patients whose immune systems had been suppressed died from their infections.

Two of the researchers—Segre and Snitkin—


work in a basic research laboratory where they study the genomes of microbes. Palmore and Henderson manage infection control at the Clinical Center. The team seized the opportunity to work together in the midst of the KPC outbreak, adding state-of-the-art genome sequencing and analysis of bacterial DNA to the hospital's rigorous surveillance routines, which are unsurpassed in the country. Through tireless vigilance and ingenuity in tracking the transmission of the bacteria—and with the cooperation of colleagues and care-giving staff—the outbreak was brought under control.

The NIH team gathered their data and documented their experience in a paper published in *Science Translational Medicine* in August 2012. The publication has generated an important dialogue and intense interest throughout the nation about the problem of antibiotic resistance and transmission of potentially dangerous bacteria in the health care setting. Members of the team also have shared their research experience across the country in print and broadcast media interviews and lectures, helping the public understand the challenges that exist in infection control.

The team's use of bacterial genome sequencing proved to be a novel and effective way to trace the precise route of bacterial transmission. The technique also revealed that patients who do not display symptoms may play a role in transmission. The collaboration between CC infection control experts and NHGRI genomics researchers ultimately demonstrated that microbial genome sequencing is a formidable tracking tool for hospital surveillance.

"Dr. Snitkin and I are honored to be acknowledged for our work," said Segre. "The partnership with our courageous collaborators at the Clinical Center was crucial for this achievement." The team has dedicated this award to the patients who died during the outbreak, she said.

Both the Employee of the Year team and Sammie finalists Dr. Michael Gottesman, NIH deputy director for intramural research, and NIDA director Dr. Nora Volkow were invited to meet President Obama at the White House on Oct. 23.

The Samuel J. Heyman Service to America Medals pay tribute to America's dedicated federal workforce, highlighting those who have made significant contributions to our country. Honorees are chosen based on their commitment and innovation, as well as the impact of their work on addressing the needs of the nation. To read more about the Sammies, go to <http://service-toamericamedals.org/SAM/index.shtml>. 



*President Obama (l) visits with Sammie finalists and winners in the East Room of the White House on Oct. 23.*

WHITE HOUSE PHOTO: PETE SOUZA

## Tanning Gene Linked to Increased Risk of Testicular Cancer

A gene important in skin tanning has been linked to higher risk for testicular cancer in white men, according to a study led by scientists from NIH and the University of Oxford in England. Nearly 80 percent of white men carry a variant form of this gene, which increased risk of testicular cancer up to threefold in the study.

The research appeared online Oct. 10 in the journal *Cell* and is the result of an integrated analysis of so-called big data supported by laboratory research. The team suspected that variations in a gene pathway controlled by the tumor suppressor gene p53 could have both positive and negative effects on human health.

“Gene variations occur naturally and may become common in a population if they convey a health benefit,” said Dr. Douglas Bell, an author on the paper and researcher at the National Institute of Environmental Health Sciences. “It appears that this particular variant could help protect light-skinned individuals from UV skin damage, like burning or cancer, by promoting the tanning process, but it permits testicular stem cells to grow in the presence of DNA damage, when they are supposed to stop growing.”

Bell explained that p53 stimulates skin tanning when ultraviolet light activates it in the skin. It then must bind a specific sequence of DNA located in a gene called the KIT ligand oncogene, which stimulates melanocyte production, causing the skin to tan.

## Brain May Flush Out Toxins During Sleep

A good night’s rest may literally clear the mind. Using mice, researchers showed for the first time that the space between brain cells may increase during sleep, allowing the brain to flush out toxins that build up during waking hours. These results suggest a new role for sleep in health and disease. The study was funded by the National Institute of Neurological Disorders and Stroke.

“Sleep changes the cellular structure of the brain. It appears to be a completely different state,” said a leader of the study, Dr. Maiken Nedergaard of the Center for Translational Neuromedicine at the University of Rochester Medical Center.



*Researchers showed for the first time that the space between brain cells may increase during sleep, allowing the brain to flush out toxins that build up during waking hours. The study was funded by NINDS.*

For centuries, scientists and philosophers have wondered why people sleep and how it affects the brain. Only recently have scientists shown that sleep is important for storing memories. In this study, Nedergaard and her colleagues unexpectedly found that sleep may also be the period when the brain cleanses itself of toxic molecules.

Their results, published in *Science*, show that during sleep a plumbing system called the glymphatic system may open, letting fluid flow rapidly through the brain. Nedergaard’s lab recently discovered that the glymphatic system helps control the flow of cerebrospinal fluid, a clear liquid surrounding the brain and spinal cord.

“It’s as if Dr. Nedergaard and her colleagues have uncovered a network of hidden caves,” said NINDS program director Dr. Roderick Corriveau. “These exciting results highlight the potential importance of the network in normal brain function.”

## Study Identifies Gene for Alcohol Preference in Rats

Selectively bred strains of laboratory rats that either prefer or avoid alcohol have been a mainstay of alcohol research for decades. So-called alcohol-preferring rats voluntarily consume much greater amounts of alcohol than do non-preferring rats. Scientists at NIH now report that a specific gene plays an important role in the alcohol-consuming tendencies of both types of rats.

“This study advances our understanding of the genetics and neurobiology of alcohol consumption in an important animal model of human alcoholism,” says Dr. Kenneth Warren, acting director of the National Institute on Alcohol Abuse and Alcoholism.

As reported online in the *Proceedings of the National Academy of Sciences*, a diverse team of scientists, led by Dr. David Goldman of NIAAA, used exome sequencing, an approach that comprehensively analyzes the DNA that encodes proteins. They found a severely dysfunctional form of the gene for a brain signaling molecule called metabotropic glutamate receptor 2 (*Grm2*), known as a stop codon, in alcohol-preferring rats but not in non-preferring rats. The researchers then demonstrated that drugs and genetic changes that block *Grm2* increased alcohol consumption in normal rats and mice.

“We’ve long known that genes play an important role in alcoholism,” says Goldman. “However, the genes and genetic variants that cause alcoholism have remained largely unknown. This first discovery of a gene accounting for alcohol preference in a mammalian model illustrates that genomic analysis of a model organism is a powerful approach for a complex disease such as alcoholism.” —

compiled by Carla Garnett





## SHUTDOWN

CONTINUED FROM PAGE 1

### Above:

*Collins said the only good news that came out of the shutdown is that NIH is now considered a "national force" that no one wants to see idled.*

PHOTOS: ERNIE BRANSON

Collins acknowledged at the outset that "it's been a pretty dysfunctional and disheartening time for government over the past 3 weeks. Once again, it seems that federal employees and contractors have taken the brunt of the consequences" for political decisions over which they had no control.

Ironically, the shutdown hit just as six Nobel Prizes—three for medicine/physiology and three for chemistry (see story on p. 3)—were awarded to NIH grantees, said Collins. "All six were courageous in pointing out the irony of the situation," he noted. Further, the Federal Employee of the Year award went to a team of four NIH scientists, who got word of the honor on the shutdown's third day. Collins noted that four of the five Nobel laureates currently employed by the government also got furloughed.

As he has in many venues in recent months, Collins lambasted the damage imposed by sequestration, which has denied NIH \$1.55 billion in funding in FY 2013 and resulted in an inability to award some 640 research project grants that were deemed worthy of NIH support. An estimated 750 patients were not seen at the Clinical Center, due to sequestration, he reported. Worse, Collins said that unless sequestration is undone, it will result in \$18.8 billion in losses to NIH over the next decade.

There was, however, a silver lining to the shutdown debacle: "NIH was mentioned over and over again" in the media as a national treasure worth preserving; several members of Congress even introduced bills to reopen NIH during the shutdown.

"If any good came of this obnoxious shutdown," Collins said, "it was that the science that NIH conducts and supports was featured prominently in media coverage worldwide. NIH was viewed as one of the most important government programs...We have never seen a time when NIH has had more positive visibility as a national force that needs to be supported."

He tallied some 9,000 media mentions of NIH in all 50 states and in more than 12 foreign countries. Of the latter audience, he said, "They were astounded that this could happen in the United States of America."

Collins said someone joked darkly that bills to reopen NIH were akin to someone taking a bus full of schoolchildren hostage, then deciding "to let the cute ones go...It was nice to be considered cute," he quipped.

Even for those permitted to come to work, "the rules we had to live under during the shutdown were rigid and onerous," said Collins, who noted that 17 years have passed since the last government-wide shutdown. "We found ourselves having to adhere to various rules which were actually quite offensive, and we had no ability to freelance." He predicted a slew of inquiries from the General Accounting Office, the inspector general and various congressional committees during which NIH "will have to defend how we interpreted our activities during the government shutdown."

## NIHFCU: Financial Friend to the Furloughed

Did you work during the shutdown?

Employees of the NIH Federal Credit Union did, "with a number of them working extended hours," said Tim Duvall, acting CEO—"by trade, CFO"—and a 33-year veteran of NIHFCU.

"This was an all-hands-on-deck moment," said Duvall. Except for the Clinical Center location, all NIHFCU branches on NIH property went dark. Yet since NIHFCU is not a government entity, it remained "fully operational."

The mission: Special Assistance for Federal Employees (SAFE), allowing credit union members with "temporary financial hardship due to a disruption in pay" to borrow up to \$10,000 at special rates:

■ Terms for closed-end loans and lines of credit were zero percent introductory APR for 30/60-

days, then 1.99 to 4.99 percent for the next 12 months.

■ Other supporting services were available such as skip a pay on existing loans.

"The SAFE loan's more relaxed guidelines enabled us to provide assistance to a greater number of households," said Duvall.

NIHFCU extended SAFE products totaling \$3.8 million, including:

■ 300 closed-end loans

■ 350 lines of credit

Created in 2009 based on prior experiences, SAFE was reviewed and refreshed "just in case." By September 2013, working closely with their board chair, Duvall and his team were poised for rollout.

NIH leadership offered NIH-wide email to announce SAFE's launch—an exception to

normal use, Duvall noted, and "nice of NIH management.

"We didn't expect SAFE to generate revenue," he said, "but it should generate good will."

"It's people helping people," said Steve Levin, VP for marketing.

A credit union like NIHFCU is a member-owned-and-operated cooperative that exists not to maximize profits, but to serve members (NIH employees, contractors and their families) by filling gaps in financial services.

"The shutdown was an event beyond the control of the federal government employees," said Duvall. "Folks were stuck. We wanted to return value to our membership and potential members during a time of need.

"It was the right thing to do."

For details, visit [www.nihfcu.org](http://www.nihfcu.org).—Belle Waring



*Collins greets attendees after the town hall meeting.*

Collins noted that narrow considerations of who was considered “excepted” were especially irksome to NIH. “Let me say right here how unfortunate, frankly offensive and insulting the implications of that distinction were to many people.” Quite a few IC directors were furloughed, he added.

Collins called the effect of the shutdown on CC patients “most gripping” to the public. In a normal week, some 200 new patients are admitted, 15 percent of whom are children. Under shutdown rules, only patients in life-threatening straits could be admitted (see sidebar below).

Looking to the new year, Collins noted “the only certainty these days is uncertainty,” but

held out hope that congressional budget negotiators can reach a solution that includes the abolition of sequestration. “NIH is often pointed to as a post-er child” for the ills of sequestration, he said. “It makes no sense for health, it makes no sense for the economy.”

Collins said he was inspired by “the enthusiasm and commitment” of an NIH workforce that returned on Oct. 17. At a time when resentment, anger and depression might reasonably have characterized the attitudes of returnees, he said, “You all have come roaring back, full of energy, full of determination to make up for lost time, to live out the promise of this great institution.”

Though his audience had not yet been back a full week, he enumerated triumphs in the world of grants, human resources and review, including a decision not to ditch the October grant submission cycle. Even though more than 200 peer-review meetings were scuttled by the shutdown, affecting some 11,000 grants, NIH will work double-time not to delay this process for another 4 months.

Collins concluded, “I am humbled and thankful to be associated with all of you... your professionalism is a delight to behold.” Then, quoting Winston Churchill, he admonished, “If you’re going through hell—keep going!”

A videocast of the town hall may be viewed (by NIH’ers only) at <http://videocast.nih.gov/summary.asp?Live=13237>.

## Shutdown Applies Brakes to Intramural Program

The furlough of three-quarters of NIH’s workforce for 16 days dealt a particularly hard blow to the Intramural Research Program, putting 2,500 research protocols and 1,500 clinical protocols on hold, said NIH deputy director for intramural research Dr. Michael Gottesman.

“Suddenly coming to a complete halt—that’s a big blow to the whole research establishment,” he said. “People were demoralized. They love doing research, they love taking care of patients. People [who were furloughed] felt very isolated and alone. Scientists are, by nature, a social species.

“What was amazing to me, though, was that as soon as people came back, spirits lifted enormously,” said Gottesman. “There was the sense of ‘Boy, is it good to be back!’ So the demoralization was not a permanent effect.”

Many experiments were lost and will have to be repeated, he said, anticipating that it will take a few weeks for most research projects to get back up to speed.

Troubling to Gottesman was the message a furlough sends to the wider research community. “NIH has compacts with all sorts of organizations. Our scientists collaborate, give talks—all of our official duty activities—and suddenly we were not reliably there to do that. All of a sudden, NIH looks like a less reliable partner.”

Although the Clinical Center remained open, only 75 percent of its staff was on hand, he said, and attendance varied from institute to institute, based on clinical stud-

ies under way. Of 7 protocols due to begin during the shutdown, only one was allowed to go forward, based on its potentially life-saving effect. And only 24 of more than 400 scheduled patient visits were permitted during the shutdown.

“No one could be in a lab without a supervisor,” Gottesman said. Not all lab chiefs, nor all scientific directors, hold “excepted” positions, he noted. Those who were permitted to work found themselves handling such routine duties as checking freezers and animal colonies.

The definition of “excepted” is not the same for a furlough as it is for a campus emergency, Gottesman explained, leading to some ticklish interpretations of who was considered “essential.”

“We were very careful with our animal [colonies],” Gottesman continued, allowing continued breeding and assuring that animals were genotyped to preserve needed cage space. “We won’t have to start from scratch with our animals.”

On any given day, NIH as a whole manages around 384,000 animals, including more than 330,000 mice, said Dr. Terri Clark, director of the Office of Animal Care and Use. There had been concerns that a prolonged shutdown would have led to a need to euthanize many mice due to overcrowding. But that did not happen, she said. A small number were culled and euthanized in the normal course of breeding operations that occurred during the shutdown.

“We came out of this in relatively good shape in that we didn’t need to euthanize a lot of animals due to the cessation of

experiments—it was a very, very small number. The larger focus is the loss of research time,” said Clark. Only critical animal studies already in mid-stream or experiments of particularly high value, as determined by the scientific directors, were allowed to go forward.

“We all breathed a deep sigh of relief that it didn’t go longer,” said Clark.

Gottesman was reluctant to name heroes during the shutdown. “There are more than I could enumerate,” he said. “Everyone who was here was doing the job of many others. It’s hard to single out individuals. Even those who did what they were supposed to do by staying home did their part.”

He noted that contractors who were unable to come to work will not be paid by NIH, but said that individual contractors may elect to compensate furloughed employees.

NIH’s facilities personnel were also affected. Joanna Bare of the Office of Research Facilities said, “We stopped essentially all grounds maintenance, custodial services and many other facilities-related services during the shutdown. However, our facilities personnel were onsite to prevent and mitigate major incidents at all NIH locations.”

Among the incidents ORF dealt with, she said, were “a transformer fire, 7+ inches of rain that caused flooding and leaks in various buildings, evacuation of an NIH leased building due to a bomb threat in a nearby building and numerous smaller incidents. Our facilities folks handled all of it with professionalism, kindness and immense patience under trying circumstances.”



## MATERNAL HEALTH

CONTINUED FROM PAGE 1

### **Above:**

*The panel at the health equity seminar included (from l) moderator Dr. Uma Reddy of NICHD, Small, Dr. Kimberly D. Gregory and Dr. Jo Ivey Boufford.*

PHOTOS: ERNIE BRANSON

er time and place, but we would be wrong. In maternal death rates, the U.S. ranks behind almost 50 other nations, including Bulgaria and Iran.

“Yet the U.S. spends more on maternity care per birth than any other nation,” according to Dr. Jo Ivey Boufford, president of the New York Academy of Medicine. She recently spoke at NICHD’s Health Equity Seminar, “Maternal Mortality in Women of Color: Observations, Status of Research, Future Directions,” held at Natcher Conference Center.

Boufford was joined by speakers Dr. Kimberly D. Gregory, vice chair of women’s health care quality & performance improvement, Cedars-Sinai Medical Center; and Dr. Maria J. Small, assistant professor of maternal and fetal medicine, Duke University Medical Center.

“It’s about time we all paid closer attention to this issue,” said NICHD deputy director Dr. Yvonne Maddox in opening remarks. The current status of pregnancy-related maternal mortality in women of color is troubling:

- ❑ Nationally, black women have a 4-times-greater risk of pregnancy-related complications than do white women and the magnitude of this disparity is increasing.
- ❑ According to a 2008 CDC report, the rate of pregnancy-related complications for blacks is 36.1 per 100,000 live births, compared with 9.6 for whites and 8.5 for Hispanics.
- ❑ In New York City, black women are nearly 7 times more likely to die from pregnancy-related complications than are white women.
- ❑ In California, black women are 4 times as likely to die from childbirth as white women.
- ❑ Nationally, the increasing numbers of cesarean sections contribute to this trend.

A maternal death is one that occurs up to

42 days after discharge. In the U.S., among the most common causes are pre-eclampsia/eclampsia (hypertension of pregnancy), cardiovascular disease and hemorrhage.

“This is a very urgent issue,” Boufford said. “The drop in the death rate overall is not paralleled in the maternal mortality rate...we need to keep this issue in front of the legislators.”

The population of women giving birth is changing, she said. They are older, more overweight and likely to have non-communicable diseases such as diabetes or heart disease. Black women tend to have more pre-existing conditions and inadequate health care.

Yet clinical management hasn’t kept pace. And the systems for prevention (including contraception), response, reporting and review are fragmented.

Moreover, black women within a low-risk category still have higher mortality rates: “The protective effects of a rise in socioeconomic status [SES] are not as great as we would want,” Boufford said.

Gregory echoed these findings. Even as global rates are falling, maternal mortality is on the rise in California and the [rest of the] U.S. “This reflects poorly on the U.S.,” she said.

Regarding black women, “I’m going to go out on a limb here and acknowledge that we *are* different,” said Gregory, who is African American. “Across the world, the maternal mortality risk for black women is higher. SES is not the only risk factor...Even if we only look at educated, affluent women, studies have shown black women still do worse.”

According to the allostatic load theory, “black women may be less resilient,” when subjected to an acute stress, she said, “because they are constantly all revved up.”

Allostatic load is the wear and tear on the body





*Gregory said black women may be less resilient under stressful conditions “because they are constantly all revved up.”*

when exposed to repeated or chronic stress. The body’s stress response is vital for managing acute threats, but if activated repeatedly over the long run, it can damage the body, especially the cardiovascular system.

As context, Gregory cited a 2002 Institute of Medicine report that African-American patients are treated differently for many clinical conditions, including receiving less pain medication than other patients, even though the African-American patients have the same medical condition.

“Cultural competency may not be enough,” Gregory said, calling for tailored clinical treatment protocols. “Why don’t we develop protocols that treat black women differently in a *good way*?”

Small noted that, worldwide, women of African descent have higher maternal mortality rates, whether they live in the U.K, the U.S. or Uganda.

With an eye to U.N. Millennium Developmental Goal #5—to improve maternal health—“the U.S. is going backwards,” she said.

For example, one of the indirect causes of maternal mortality is diabetes, which is on the rise. “Few studies examine BMI for ICU admission...yet obesity is a significant contributor.”

In addition, because a maternal “near miss” event (a severe morbidity or complication of childbirth) is more common than a maternal death, studying “the near miss can be useful in improving quality of care,” she said.

She pointed to “the Hispanic paradox.

“Hispanics may have better outcomes even though they have lots of risk factors we associate with adverse health,” she said. These outcomes may be linked to family and community networks and diet.

In North Carolina, “near miss” events, however, are higher among Hispanic mothers.

More research is needed on psychosocial factors, she said, including the role of social support as a stress mediator. ②

*University of Miami president Dr. Donna Shalala (l), NINR director Dr. Patricia Grady (c) and the dean of University of Miami School of Nursing and Health Studies, Dr. Nilda Peragallo Montano*

PHOTO: UNIVERSITY OF MIAMI SCHOOL OF NURSING AND HEALTH STUDIES



## NINR Director Discusses Impact of Nursing Science

NINR director Dr. Patricia Grady recently spoke at a reception marking the 65th anniversary of the University of Miami School of Nursing and Health Studies. The event, which initiated a year-long celebration of the school’s 65th birthday, drew university trustees, leaders, faculty and clinical and community partners.

Grady’s talk focused on nursing science and its impact on health care. She began by defining NINR’s role in nursing science and the overarching philosophy that the institute and UM’s School of Nursing and Health Studies both share—the importance of engaging communities in order to conduct meaningful research that will be successfully adopted into widespread practice.

“NINR is proud to have supported your school’s highly relevant research,” Grady told attendees. “Nursing science, as exemplified by the research conducted here, will continue to grow the evidence base for health care practice.”

Grady described NINR’s research interests—including symptom science, wellness, self-management and end-of-life and palliative care—and reflected on the impact that the findings from related studies have made on health care practice. “Nursing science provides a foundation for clinicians who strive to improve disease and symptom management in a variety of health care settings and across diverse populations,” she said, citing several examples of NINR-funded research and how it is being used in clinical practice.

“You represent the present and the future nursing science leaders and we are counting on you as the value and importance of our profession continues to grow,” she concluded. “I firmly believe that the next 65 years will see enormous advances in health and health care and that nursing science will play a leading role in making those advancements possible.”

## The NIH WISER Survey Is Coming

Within the next weeks, the NIH chief officer for scientific workforce diversity will be launching an NIH-wide employee survey: the WISER survey—Working towards creating a more Inclusive and Supportive Environment for Research at the NIH. It asks you to share your experiences and perceptions at NIH.

Be on the lookout for an email with the link to access and complete the survey. By providing your input and perspectives, NIH can enhance its diversity and inclusiveness.

For more information, contact [WISER@mail.nih.gov](mailto:WISER@mail.nih.gov) or (301) 827-4000.

# milestones

## CSR's Remondini Retires After 36 Years

By Paula Whitacre



*Dr. David Remondini recently retired after 36 years at NIH.*

Dr. David J. Remondini remembers the careful cattle-breeding records his grandfather kept on his homestead in Deming, N. Mex. What he did not realize, as he helped with daily chores, was how the farm would shape his life as a scientist. He retired recently at age 81 as scientific review officer of the Center for Scientific Review's genetic variation and evolution study section.

During Remondini's childhood, as his parents navigated the Depression and World War II, the farm provided a safe haven. After the war, he joined his parents in Riverside, Calif., where a high school teacher encouraged him to attend Riverside Community College. He graduated with a B.A. from the University of California, Santa Barbara, where he met his wife Earnestine, and became a teacher. In one rural school, he was one of three teachers for grades 1-8; he also drove the school bus.

But fate, and Sputnik, intervened, leading to a doctorate in genetics and a 36-year career at NIH. The National Science Foundation selected him for its 1-year Academic Year Institute at the University of Utah. He remained an additional year as an NIH trainee to complete an M.S. in 1964, working with Dr. George F. Hanks, using *Drosophila* to study mitotic drive. He was then selected as an NIH trainee at Utah State University, receiving his Ph.D. in 1968 for work with Dr. Eldon J. Gardner, using another genetic condition in *Drosophila* known as tumorous head.

From there, Remondini became a faculty member at Gonzaga University and Sacred Heart Hospital's first staff geneticist, in Spokane. In 1974, he moved to Michigan Technological University in Houghton, Mich.

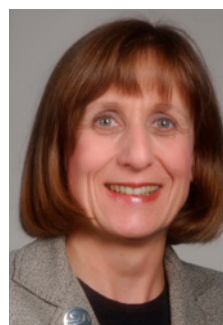
In February 1977, he became the genetics study section's second-ever executive secretary, after Dr. Kay Wilson, a pioneer in the field. "She left big shoes to fill, but Dave succeeded, which was very important for NIH," said Dr. Daniel Hartl, Higgins professor of biology at Harvard. "He provided continuity in the field of genetics and the genetics study section for decades."

"Dave had an intense interest in a fair peer review process," said Dr. Cheryl Corsaro, SRO of the genetics of health and disease study sec-

tion. "He was ahead of his time, analyzing data from his study sections to ensure every application was dealt with fairly." A priority was ensuring reviewers understood all aspects of the field beyond their own specialty to thoroughly evaluate each application.

Beyond study section responsibilities, Remondini helped create and twice chaired the Council of the SRA/SRO Assembly and served on many CSR committees. He had a parallel military career as an enlisted reservist in the California National Guard, U.S. Army Reserve (1953-1961) and U.S. Coast Guard Reserve, from which he retired as a commander in 1991. He also fulfilled a life-long goal at age 50 by becoming a pilot.

The Remondinis, married for more than 60 years, have six children, 14 grandchildren and 8 great-grandchildren. Devoted to family, he also fostered a spirit of caring at NIH. As Amber Ray, a CSR extramural support assistant, noted, "He treated his administrative staff like family. He has always been passionate about his love for the sciences and it made it a pleasure to work with him throughout all these years."



## Klosek Named Director of OD Division

Dr. Malgorzata M. Klosek is the new director of the Division of Construction and Instruments in the Office of Research Infrastructure Programs, Division of Program Coordination, Planning and

Strategic Initiatives, OD. DCI supports and manages the portfolio of grant applications for acquisition of state-of-the-art biomedical shared instrumentation and for upgrading, renovating and expanding research infrastructure and facilities.

Klosek brings a rich mixture of mathematical and scientific skills, having collaborated with researchers on many interdisciplinary projects. "Biology has changed over time in the sense that there are more and more tools designed by physicists that are producing huge quantities of data and these tools need people who collectively bring expertise in biology, physics and applied mathematics to research," says Dr. Franziska Grieder, ORIP director.

Before joining DCI, Klosek served as a scientific review officer at CSR, first in the bioengineering sciences and technology integrated review group and then in the surgical sciences, biomedical imaging and bioengineering IRG. "Dr.



Klosek has been an asset to CSR through her quality interactions with numerous program staff, her hard work and her unique quantitative background in mathematical modeling and biology," says Dr. Eileen Bradley, SBIB IRG chief. "We support Dr. Klosek in her new role at ORIP; however, we hate to see her go."

Klosek received her M.S. degree in applied mathematics from Warsaw Technical University and her Ph.D. in applied mathematics from Northwestern University. Her research in applications of stochastic differential equations, in collaboration with biophysicists, chemists, engineers and economists, led to numerous scientific papers in a variety of journals. She was an associate professor with tenure at the University of Wisconsin, Milwaukee, before coming to NIH.

When not at work, Klosek is often planning her next exotic trip abroad. She and her husband recently spent 3 weeks traveling across northern India, from the Pakistani border in the west to Kolkata in the east, taking in varied sites in between, from the Golden Temple in Amritsar to the Taj Mahal in Agra, and on to the holy city of Varanasi and the birthplace of Buddhism in Bodhgaya.



### NIH Mourns Loss of ORS Associate Director Hayden

By Brad Moss

Thomas "Tom" Hayden, ORS associate director for program and employee services, died unexpectedly on Aug. 25.

He started his federal service as a "Stay-in-School" appointment with the USDA in 1982 as a personnel clerk and later as a paralegal/legal technician with the Office of the Administrative Law Judges. In 1988, he joined NIH as a police officer.

After his service as a policeman, he worked for a short period of time in transportation planning in the ORF Master Planners Office before becoming director of the ORS Division of Travel and Transportation Services, later to merge with another division and become the Division of Amenities and Transportation Services. He was selected as director for this new division until he was promoted to associate director for program and employees services in January 2012. In that post, he oversaw many services integral to the day-to-day operation of the campuses including parking, shuttles, child care,

cafeterias, interpreting services, fitness centers, medical arts, mail and immigration services.

"No assignment was too big or too small for Tom," said ORS director Dr. Alfred Johnson. "Many of my peers knew to go straight to him when they had questions...and they also knew they were going to get a prompt response, and more often than not a positive response."

For many, Hayden was the face of ORS. "Tom's work touched nearly everyone in the NIH community. He was a mentor, friend and colleague to many of us. His dedication to the NIH and its mission...was unwavering and his care for his NIH family was undeniable," said Johnson.

Hayden's work with ICs, along with federal, state and local agencies, routinely resulted in constructive solutions to often difficult problems affecting employees, visitors and the neighboring communities. Even when the answer wasn't always what those involved wanted to hear, it was guaranteed that Hayden had exhausted every possibility in an attempt to find a fair and equitable solution. For this, he was beloved, admired and recognized with numerous commendations throughout his career.

A remembrance and celebration of his life was held Sept. 12 in the Clinical Center chapel for friends and colleagues. In addition to comments by Johnson, Maureen Gormley, CC chief financial officer, and Randy Schools, president of the NIH Recreation and Welfare Association, commended Hayden's responsiveness, can-do spirit and the heartfelt personal interactions they had with him over the years. Co-workers and friends also shared their memories and stories of the many contributions Hayden made and the lives he affected at NIH.

In his spare time, Hayden was a member of the Bowie Volunteer Fire Department and coordinated the Bowie CPR program. He also enjoyed antique tractors and was an avid outdoorsman, enjoying hunting and fishing, especially with his beloved dog Pax. In a clear sign of his work ethic and dedication to NIH (and the outdoors), it was not uncommon to be on the phone with him discussing business, even though it was his day off and he was having the conversation while sitting in a deer stand or fishing boat.

Hayden earned a bachelor's degree in criminal justice/criminology with a paralegal minor from the University of Maryland. He is survived by his wife Ellen K. Hayden, stepchildren Ashley and Logan, his parents, two brothers, one sister and many relatives and friends.



### Ivins Named Chief of CSR Review Group

Dr. Jonathan Ivins has been named chief of the digestive, kidney and urological systems integrated review group (IRG) at the Center for Scientific Review. He had been scientific review officer for the synapses, cytoskeleton and trafficking study section in CSR's molecular, cellular and developmental neuroscience IRG.

Ivins will oversee 10 study sections that review grant applications covering basic and clinical aspects of gastrointestinal, hepatobiliary, pancreatic, kidney, urinary tract and male genital system physiology and pathobiology, as well as the disposition and action of nutrients and xenobiotics.

Ivins received his Ph.D. in pharmacology from the University of Pennsylvania School of Medicine. After postdoctoral work at Cal Tech, MIT and UC Irvine, he became assistant professor of neurosurgery at the University of Texas Houston Health Science Center. His lab studied signal transduction pathways regulating axon outgrowth and growth cone guidance. 1



Forum highlights include (above, from l): Dr. Nancy Wexler of the Hereditary Disease Foundation greets NINDS deputy director Dr. Walter Koroshetz; organizers gather; and NINDS's Dr. Petra Kaufmann discusses a new effort to engage patients in clinical research. Below, nonprofit representatives informally meet with NINDS program directors.

PHOTOS: BILL BRANSON

## NINDS Forum Focuses on Progress via Partnership

By Shannon E. Garnett

Representatives from nearly 60 organizations across the country recently joined NINDS at its seventh nonprofit forum: "Progress Through Partnership." The 2-day meeting gave patient advocacy groups an opportunity to learn about NIH and NINDS, network with each other and interact directly with program staff.

"When I became institute director I thought it would be a great idea once a year to bring all of our voluntary organizations together with NINDS staff to tell you what we are doing and to learn about what you are doing, and for each of you to learn from each other," said NINDS director Dr. Story Landis, in opening remarks.

She reviewed a number of the institute's recent successes: Completion of phase II of the John Edward Porter Neuroscience Research Center, the NeuroNEXT program—a clinical research network designed to accelerate therapy development—and the recent conclusion of two clinical trials that may have implications for clinical practice. Landis also mentioned the launch of a new Stroke Trials Network—a national clinical trials network created to encourage enduring collaborations, expedite recruitment and data sharing and advance treatments, prevention and recovery.

For the first time, the forum was webcast. Also new was the meeting's timing; it was held directly before the National Advisory Neurological Disorders and Stroke Council convened. This enabled many to also attend the open session of the council meeting.

Dr. Petra Kaufmann, NINDS associate director for clinical research, spoke on a new effort to engage patients in clinical research. "There is a crisis in clinical research," she said. "The crisis is that researchers are having trouble finding patients for clinical trials."

Kaufmann suggested NINDS and investigators establish active partnerships with patients and patient groups by collecting names of volunteers willing to work with NINDS on design and review of clinical trials. She said very few trials involve patients in the planning and oversight aspects. However, this needs to change. "We—NINDS, patients and investigators—are all in one boat," she said. "If we don't coordinate we will not get anywhere. We need active partnerships."



Dr. Kathy Hudson, NIH deputy director for science, outreach and policy, gave a presentation on the BRAIN Initiative, which President Obama announced earlier this year to revolutionize our understanding of the human brain.

"The science—in large part because of the investments of NIH and, certainly, NINDS—has brought us to a place where we are in a unique moment in the history of science and technology to apply what we have learned to develop new tools and technologies to understanding brain structure and function," said Hudson.

Nonprofit representatives were then given a chance to meet informally with NINDS program directors before heading into the last session of the day—a panel discussion highlighting success stories and experiences of four groups: The Association for Frontotemporal Degeneration, Dystonia Medical Research Foundation, Citizens United for Research in Epilepsy and Parkinson's Action Network.

Day 2 began with "What Does the NINDS Advisory Council Do? Perspectives from Council Members." Its purpose was to provide a basic understanding of how council works and prepare nonprofit representatives for the council meeting the next day.

"One of the privileges of being on council is that you get to see the bigger picture," said Dr. Kevin McNaught of the Tourette Syndrome Association. "That privilege comes with responsibility. We have to put aside our own projects and look at the bigger picture—the greater good—neuroscience as a whole."

"It is critical for nonprofit groups to have outstanding scientists and clinicians on their boards," said Landis, summing up themes throughout the 2 days. "Network to find the right advisors. If you have the right people, doors open and extraordinary opportunities arise. Partnerships are critical." 